

**CHD OVAL TRACK RACING: CLUB CLASS 2011/2012
CONSTRUCTION REGULATIONS CHD MINI CLASS**

"Please note that only the exceptions from the rules according to MSA are noted. If not mentioned the MSA rules will be applicable."

The concept of this class is to formula where the youngsters can join oval track racing. The vehicle shall remain standard in all aspects, unless modifications are specifically stipulated by the regulations. Only Cape Hell Drivers competitors between the age of 10 and 18 without a legal drivers license will be allowed in this class. A competitor can stay in this class for the remainder of the season in which he/she turns 18

1. Batteries

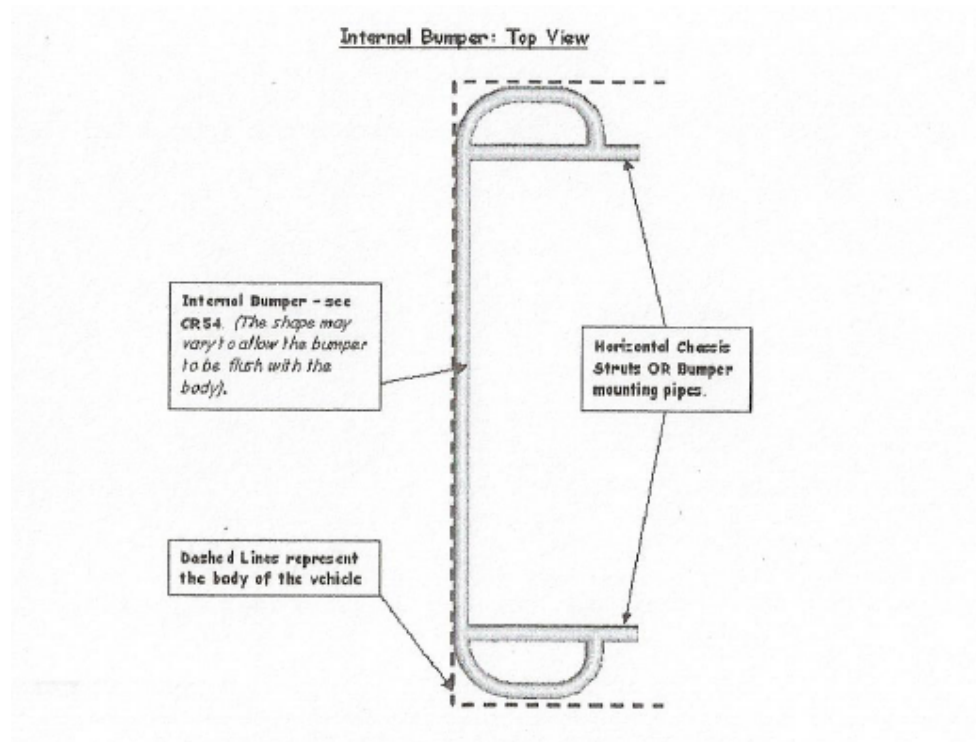
All batteries must be securely fixed into the vehicle in a battery box secured by bolts with a diameter of at least 8 mm and reinforcing plate.

2. Brakes

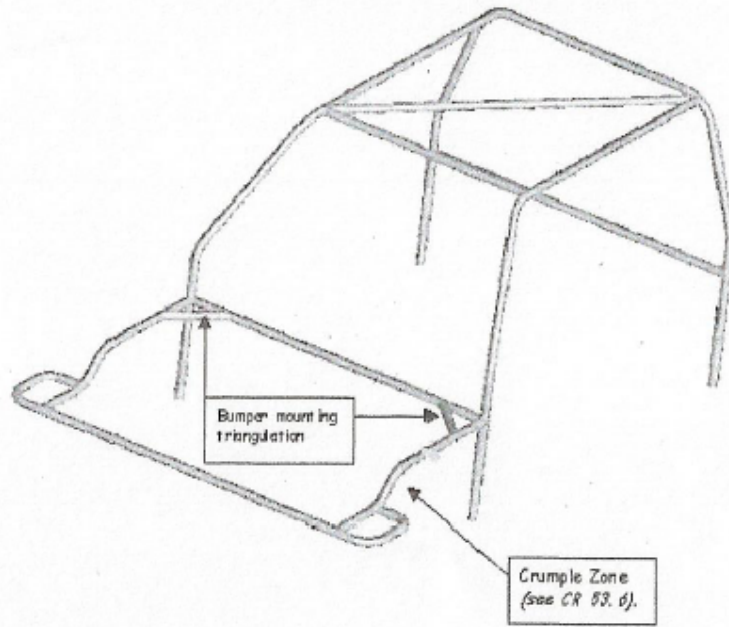
- 2.1 Effective braking is mandatory on all 4 wheels.
- 2.2 Only driver operated brake balance / bias adjustment systems are permitted.
- 2.3 ABS is not permitted.
- 2.4 Copper brake lines or pipes are not allowed.
- 2.5 Pedal boxes are free.

3. External bumper regulations

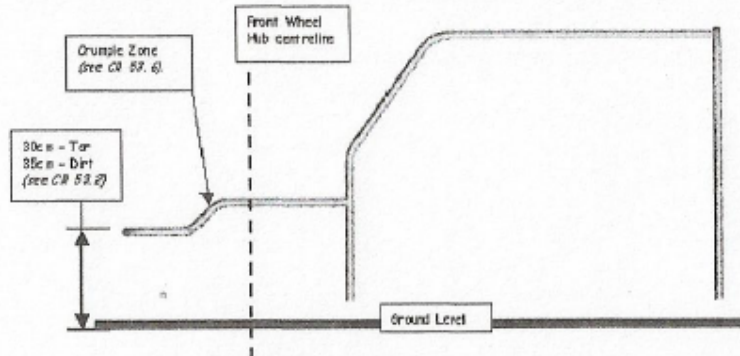
- 3.1 These bumpers are only permitted on vehicles participating in races where contact is allowed.
- 3.2 All bumpers must be attached to their mounting and support pipes by bolts or by welding. The bumper must be connected to the mounting pipe as specified by means of a flange.
- 3.3 The space between the bumper and the bodywork, measured from the nearest point of the body to the inside of the bumper may not exceed 50mm, front and back of the vehicle. The maximum space measured, as above, shall be 30 mm in respect of the sides of the vehicle.



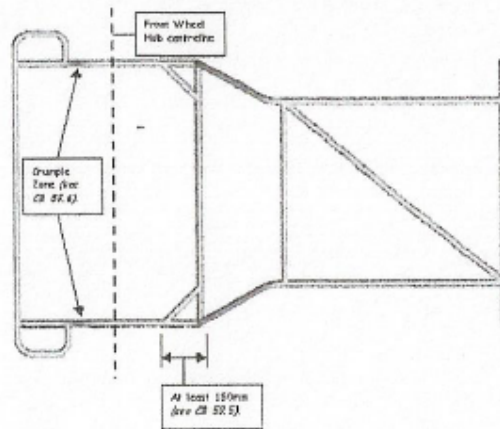
General Bumper Regulation (see CR 53.): 3D View



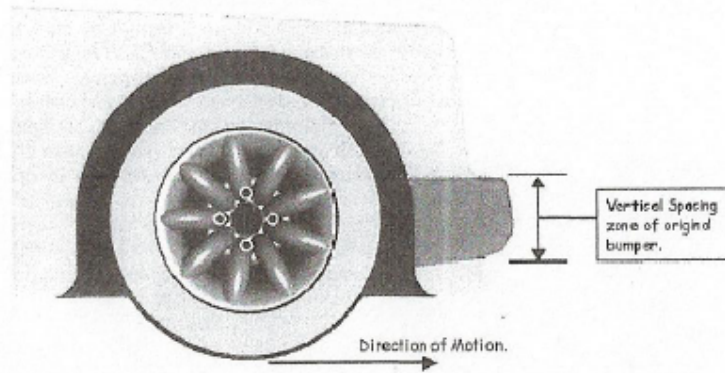
General Bumper Regulation (see CR 53.): Side View



General Bumper Regulation (see CR59): Top View



Vertical Spacing zone of Internal Bumper



4. Cooling systems

- 4.1 Radiators shall be mounted within the engine compartment of vehicles.
- 4.2 No onboard radiator spraying equipment is permitted.

5. Fuel pipes and fuel tanks

- 5.1 It is highly recommended that properly designed and manufactured racing fuel tanks, especially bag tanks are utilized. The use of fuel tank foam is also highly recommended. Metal fuel tanks shall be made of at least 1mm thick.
- 5.2 A fuel tank breather, which shall vent externally, must be fitted to all fuel tanks. A non-return valve shall be fitted to the breather. The non-return valve must not be airtight.
- 5.3 The fuel tank shall have a non-vented cap. The cap may not be mounted into the bodywork of the vehicle. Where a conventional road going vehicle or space frame vehicle is used the cap shall be fitted directly to the tank and be housed within the boot space. In all other cases, a rubber hose from the tank to the cap will be allowed. The fuel filler hose will terminate into the cap fitting which shall be flush mounted to the upper horizontal portion of the body shell or panelling as the case may be.
- 5.4 Fuel tanks must be mounted in a separate compartment to the driver. A complete, sealed firewall must be constructed to separate the competitor from the fuel tank and the fuel pumps. Where conventional road going vehicles are used the fuel tank will mount inside the boot area.
- 5.5 Fuel tanks must be securely mounted to the boot floor or the chassis of the vehicle with bolts or metal straps. Tanks may not be welded into place.
- 5.6 The fuel tank shall preferably be mounted on the driver's side of the rear axle. If the tank is fitted behind the rear axle and below the boot floor a hoop shall be welded into place

- between the chassis rails to protect the tank. The material used shall be pipe with an outside diameter of 38 mm and a wall thickness of 2mm. The hoop will be braced.
- 5.7 There may only be a single fuel tank which shall be the only source of fuel to the carburetors or fuel injection system. The fuel line may be branched to allow dual or spare pumps to be fitted.
 - 5.8 The fuel pumps shall be securely mounted.
 - 5.9 Fuel pumps may not be fitted in the cockpit. All fuel lines in the cockpit must be of copper or steel tubing.
 - 5.10 Inlets and outlets into and out of the tank shall be securely connected to the fuel lines. With special care being taken if the outlet is below the tank.

6. Windows and lights

- 6.1 All windows, except the front windscreen, shall be removed.
- 6.2 If window or windscreen is fitted, only laminated windscreens will be permitted with additional duct tape or metal brackets securing the four corners being compulsory. No cracked windscreens will be allowed if visibility is in any way affected.
- 6.3 All glass and / or plastic indicators or lights shall be removed from the body of the vehicles that participate in racing where contact is permitted. They may be retained for non contact racing but shall be properly secured.
- 6.4 The rear side windows may be replaced with side-panels of clear lexan or polycarbonate. The panels must however remain transparent, without sign writing or advertising, other than the competitor's surname and a regional or club logo. The number may not be fitted there.

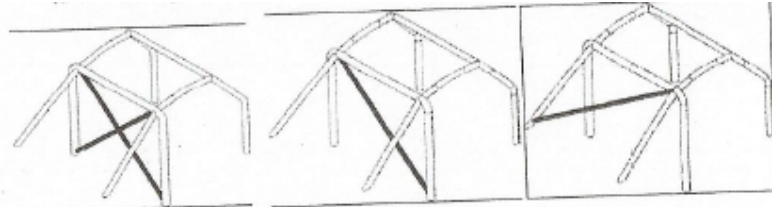
7. Roll cages

- 7.1 The minimum requirements for roll cages in all classes are:
- 7.2 The cage shall have four down (vertical) pipes or legs, two of which must be in front of the driver. The other two shall be behind the driver's seat. Four horizontal pipes fitted at the top of the down pipes shall join the four down pipes to each other.
 - 7.2.1 The cross braces must be fitted, one in front of the driver, above the steering column, and one behind the driver, supporting the backrest of the seat. This brace shall be just below the shoulder of the driver when seated and shall support the seat belt/harness so that the belts would pull the driver down into the seat. Should the seat have belt slots the bar shall be mounted at the exit point of the slots.
 - 7.2.2 The roll cage must be reinforced as follows:
 - 7.2.2.1 Two rearward facing, downward sloping pipes that mount from the top of the cage to the floor, wheel arch or chassis shall be fitted; and
- 7.3 A cross pipe, that triangulates (from left to right or right to left, top to bottom as viewed from behind the vehicle) either the roll cage down posts or the rearward facing downward sloping pipes, shall be fitted. This pipe is in black on the Annexure 2 sketch.
- 7.4 All joints and seams in the construction roll cage are to be properly mitred and shall be welded as follows:
 - 7.4.1 When original, conventional factory built road or semi-space framed vehicles are used – 100% in all assessable areas provided that a gusset is fitted where joints cannot be fully welded; and
 - 7.4.2 When purpose built chassis is utilized – 100%.
- 7.5 The roll cage itself as described in regulation must be constructed of the following materials:
 - 7.5.1 Cold rolled tubing with a minimum diameter of 38 mm and a minimum wall thickness of 2 mm.
 - 7.5.2 The additional obligatory bracing, as described in regulation CR 43.1.3 above as well further specified bracing shall be of:-
 - 7.5.2.1 Pipe with a minimum diameter of 33 mm and a minimum wall thickness of 2 mm; or
 - 7.5.2.2 Square tubing with a minimum width of 33 mm and a minimum wall thickness of 2 mm.
- 7.6 All piping between the various mounting points and joints shall be completely straight, except for the front down pipes or legs of the roll cage which may be shaped in accordance with the profile of the front window, as seen in side elevation. In such case

they shall be straight between the floor and the cross brace above the steering wheel and between the brace and the upper horizontals..

7.7 Additional cross pipe bracing may be added to the cage.

7.8 The piping of the cage, constructed as an integral part of a purpose built chassis, may be shaped to provide a close fit to the body shell. Such cages shall have all the elements of the above chassis as well as additional, triangulated, bracing to reinforce the cage. The bracing is especially required where the cage may have lost some of the strength due to the bends made to obtain a closer fit.



8. Safety general

8.1 No ballast, other than weights fitted to comply with minimum weight regulations is allowed.

8.2 All bonnets and fenders shall be in place at the commencement of every race.

8.3 Competitors must be able to exit their vehicles and reach a point no less than 10 (ten) meters from the vehicle within 30 seconds.

9. Window nets

9.1 Window nets are optional. If fitted they shall comply with the following regulations:

9.1.1 Window nets shall be made of either:

9.1.1.1 Non inflammable webbing with a minimum width of 25 mm and a maximum width of 35 mm that has been properly woven and stitched together in a block pattern, with gaps of no more than 75 mm; or

9.1.1.2 Non-inflammable cord with a diameter of 2 mm that has been properly knotted together with gaps of no more than 60 mm. The woven cord shall be stitched into webbing material and affixed to the vehicles via properly reinforced eyelets.

9.2 Window nets shall cover:

9.2.1 The full window area from top to bottom.

9.2.2 From the edge of the seat at the driver's shoulder to his elbow, measured with the driver seated at the controls with his hands on the steering wheel.

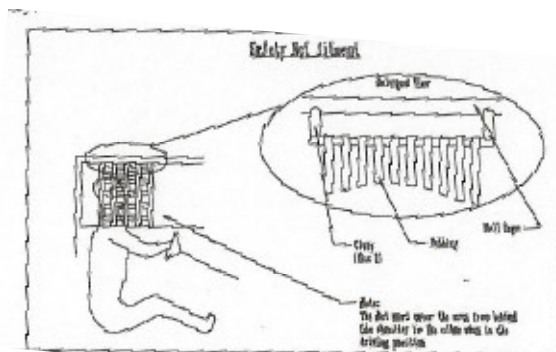
9.3 The net shall:

9.3.1 Be firmly mounted into place using suitable using luggage clips

9.3.2 Mount to the roll cage and sissy bar in the window space – top and bottom

9.3.3 Not be affixed to the release mechanism by parcel elastic, ropes or cable ties.

9.4 When a safety net is installed, it must still be possible to open / remove the door or remove the safety net in an emergency.



10. Brake lights

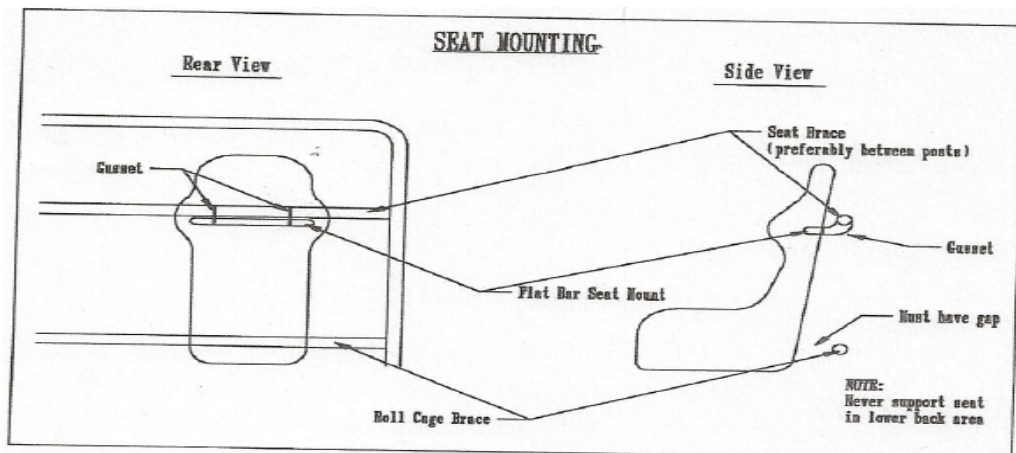
- 10.1 The brake light shall be operational at all times
- 10.2 One rearward facing red brake light must be fitted in the rear window space. The lens of the light shall be at least 50 mm in length or diameter and must be intact. The lights may be replaced by a non-flashing LED of at least 200 mm in length.
- 10.3 The brake lights / tail lamps must operate by a standard pedal operated switch. No other switches or modifications are allowed. The bulbs must be effective.
- 10.4 As a general rule brake lights may not be fitted in the bodywork of the vehicle.
- 10.5 Care must be taken during the installation of the lights in order that flickering and malfunction may be minimized.

11. Safety belts

- 11.1 The seat belts and the installation must comply with the MSA specification.
- 11.2 Arm straps are optional, but must be of the quick release type.

12. Seats

- 12.1 It is recommended that TIA approved competition seats are fitted.
- 12.2 Only racing type seats are allowed. It follows that no conventional passenger vehicle seats may be used in their original or modified state.
- 12.3 Non-FIA approved seats shall be reinforced by clearly visible aluminium or metal backing fitted directly behind the seat if it does not mount flush against a properly constructed panel. Such backing shall be integral properly shaped in accordance with the seat of the vehicle and shall have no sharp edges and form an integral part of the mounting of the seat itself. Fibreglass seats shall be covered. The minimum thickness of materials for non FIA seats is as follows:
 - 12.3.1 Fibre glass / composite materials – 8mm
 - 12.3.2 Aluminium – 2.5 mm
- 12.4 Seats must be bolted with tear plates as set out for safety belts above as follows:
 - 12.4.1 When original road going vehicles are used – to the floor pan of the vehicle – provided that the complete floor plan is still of sound construction and free of rust.
 - 12.4.2 In all other cases – to specifically constructed seat mounting legs that are in turn mounted to the chassis of the vehicle.
- 12.5 No cracked or broken seats are permitted.
- 12.6 The driver must sit to one side of the centerline in all saloon vehicle classes.
- 12.7 A properly braced and triangulated cradle shall be installed if a seat needs to be raised. The triangulation shall be on both lengthways (to protect against a forward failure) and at least one of the other sides. The cradle shall in turn be fitted as if it were a seat.



13. Roll cages and side impact ("Sissy") bars

- 13.1 The safety cage must be designed and constructed so that it substantially reduces body shell deformation and so reduces the risk of injury to occupant. The essential features of a safety cage are sound construction, design to suit the particular vehicle, adequate mountings and a close fit to the body shell. The side impact bars shall be placed so that they offer the most strength and protection in the event of a side impact.
- 13.2 The roll cage pipes should be as straight as possible. Where the construction of the vehicle necessitates bowed or curved pipes these shall be reinforced by triangulation.
- 13.3 The safety cage shall be padded in the immediate vicinity of the competitor's body with a fire retardant foam material.
- 13.4 The cage shall be fitted with a base plate, welded, or bolted onto the floor, sill, or wheel arch of the vehicle if the original body of standard vehicle is utilized. The cage of a purpose built chassis shall form an integral part of the chassis itself and shall accordingly be welded directly onto the chassis legs.
- 13.5 No holes or slots or any type of measure intended to reduce the weight of the pipe work utilized is permitted.
- 13.6 None of the legs of the roll cage may rely on another element of the roll cage for support.

14. Body protector

- 14.1 Two sissy bars, fitted horizontally, on the inside of the two front doors, must be fitted between the two down pipes or legs of roll cage and affixed to the roll cage.
- 14.2 The sissy bars must be a minimum of 50 mm apart. A minimum of one vertical support pipe, in the center of the sissy bar is compulsory. The sissy bar may not protrude past the roll cage down bars. The sissy bar shall preferably follow the contour of the door, especially on the driver's side.
- 14.3 Sissy bars shall be fitted in such a manner that the competitor's hip and knees are completely protected when he is strapped into his seat. In order to achieve this the top horizontal bar must be in the middle of the door, as measured from the floor sill to the bottom of the window aperture. The sissy bars must be constructed so that the internal /external bumper of a competing vehicle would collide with the sissy bar in the event of a T-bone type collision.
- 14.4 The sissy bar shall have two vertical supports, welded or bolted to the sill of the chassis, spaced so that they divide the area between the back of the seat and the front lower corner of the driver's side door into three equal areas.
- 14.5 The sissy bars may be replaced by a cross arrangement, securely welded together at the cross over point. The cross shall be installed in such a fashion that the top ends are in line with the top of the door panel. The bottom ends shall be at least 75 mm above the sill height. The cross point shall be gusseted with 2 mm plate for a distance of 100 mm from the crossover point.

15 : Body shell

- 15.1 Only a Mini body like those that was sold in South Africa between 1960 and 1985 may be used in standard form.
- 15.2 Fibre glass bonnet and boot is optional.
- 15.3 Fibre glass skin over the rest of the body except the roof is allowed for cosmetic reasons only, but panels to stay intact and not to be lightened.
- 15.4 All body parts to remain standard and only the driver side door may be cut on the inside to fit the sissy bars.
- 15.5 All doors to remain operational.
- 15.6 Wheels must be covered by body panels.
- 15.7 No wings allowed.

16 : Engines

- 16.1 Mini engine of not more than 1100 + 60 thou (0.060) may be used in standard form.
- 16.2 The engine is to remain completely standard with intake (1 and a half inch) and exhaust manifolds.
 - 16.2.1 Mazda pistons may be used.
- 16.3 No modification may be made to the cylinder head or camshafts.
- 16.4 The standard clutch assembly & gearbox are to be used.
- 16.5 The engine and radiator is to remain in its original position.
- 16.6 A Mini S.U. (37/38) side draft may be used in standard form (1 and a half inch – single).
- 16.7 A standard exhaust max 48 mm outside, standard mounting full length must be used.
- 16.8 Air cleaners are optional.

17 : Transmission and brakes

- 17.1 No limited slip differentials are allowed.
- 17.2 Only standard 1100 Mini drum brakes may be used on all four wheels.
- 17.3 Differential ratios may be changed to sit different circuits. Locking is not allowed.
- 17.4 Only 1100 mini drums may be used (not with built in spacers)
- 17.5 Only standard steel Mini rims or standard epoxy rims (trailer) may be used. No modifications are allowed on the standard mini rims. On the epoxy trailer rims the maximum dish offset – measured from the outside of the rim to the bolt height of the dish may not be more than 70 mm.

18 : Suspension

- 18.1 No lowered suspensions will be allowed and only the original mounting points may be used. No alterations may be made to the sub frames.
- 18.2 *No rose-joints are allowed. No alterations to wishbones or shock mounting. Only Munro / Armstrong/Gabriel shock allowed.*
- 18.3 No spacers on wheels allowed
- 18.4 Only local shocks are allowed (no imported or gas shocks)
- 18.5 The front suspension (camber) must be 0° negative or positive with a maximum of 1° negative or positive tolerance. The wishbones may be bent **but not modified** to get to 0°.

19 Tyres

- 19.1 Standard Mini steel rims or epoxy rims may be used – no aluminium mag wheels.
 - Tractor rims are also allowed
- 19.2 Only 10" inch rims may be used.
- 19.3 Any 145 SR 10 tyre may be used. No retreads.
- 19.4 A maximum rim width of 4 and a half J is allowed.

20 General

- 20.1 This is a non-contact class. Bumpers will be for protection purposes of young drivers only.
- 20.2 The crankshaft may not be stroked.
- 20.3 Only normal pump fuel may be used.
- 20.4 Only a standard Mini points distributor may be used.
- 20.5 Sissy bars and external bumpers are compulsory.
- 20.6 Cars are not allowed to produce more than 35 kw and 90 nm torque, measured on the flywheel.
- 20.7 Carburetors will be marked during scrutenering
- 20.8 Wheel studs will be allowed to extend it to 12mm/14mm

21 Safety

21.1 Bumpers

- a. Bumper to be mounted to roll cage with 10 degree "weakening bend" 200mm from bumpers.
- b. Bumper thickness 38 X 2 mm
- c. Only 4 mounting points are allowed.

21.2 Nerf bars

a. CR – S11

23 Restrictors

- a. Cars must be taken to Ferroli at Killarney for dyno sheet.
- b. Restrictor size (for car to adhere to 35kw and 90nm torque) and Dyno sheet must be handed in at first race meeting of new season. If the sheet is not handed in at the first race meeting the driver will not score club points and will not draw for grid positions. He/she will start at the back for all the races until the dyno sheet has been submitted.
- c. The dyno sheet is not compulsory for new drivers. They will be allowed to race the first 3 race meetings without the dyno sheet. The committee will decide when the new driver must hand in the dyno sheet.
- d. Restrictor size will be noted in scrutineering book.
- e. If change is made to car and new restrictor are used the scrutineer must be informed of it to update scrutineering book.
- f. Dyno sheet must be handed in if restrictor is changed

24 Weight

Minimum : 650kg plus driver

25 Grid

- Heat 1 – draw
- Heat 2 – pole invert
- Heat 3 - draw
- *Final – according to club points before the start of the event – most points at the back*
- *For the 1st event of the season the final will be according to total points scored in heat 1, 2 and 3 – most points at the back.*

26 Draw

At entry on race day.

If late for scruteneering and the driver did not phone Andre W the driver will start at the back of grid for all 4 races (including the final) for the evening.

27 Penalties

- CHD reserved the right to impound cars for dyno testing/stripping at any time they see fit.
- Only one dyno run will be allowed.
- The driver will be responsible for the stripping which will be done on the Sunday or Monday and not on night of event.
- Cars will be impounded and locked up at Killarney or sealed at away races for dyno testing/stripping.
- The dyno can/will be run at any given time – irrespective of weather conditions.
- The parc ferme area for lock up / stripping and sealing will be on the center of the circuit.
- The committee/ Technical Rep will have the authority to decide on cars to be impounded. He/she will inform COC of cars to be impounded.
- Penalties to be imposed
 - a. On first offence – loose total points accrued up to date
 - b. Second offence – loose total points accrued and pay R1000.00 fine to club.
Driver will not be allowed to take part in any oval track racing under A number – at CHD or any club - until fine has been paid.
Driver will not be allowed to change clubs while fine is still outstanding.
 - c. Third offence – loose total points accrued and be excluded from any oval track racing under A number – at CHD or any club for 120 calendar days as from date of finding.
Driver will not be allowed to change clubs while under suspension.